

declines the invitation to amend claims 4, 9 and 10 at this time, however, in view of his belief that the independent and intervening claims are allowable.

In view of the following remarks, the Applicants respectfully request reconsideration of the pending rejections and allowance of claims 1-12.

**1. The Present Invention Is Patentable Over Shigeta, WO99/13989 and JP 59042781.**

The Applicant respectfully traverses the § 103(a) rejection of claims 1-3, 5-8 and 11-12 on the grounds that WO99/13989 is not an effective reference to the present Application, and further because JP 59042781 does not cure the deficiencies of Shigeta. Accordingly, the § 103(a) rejection cannot stand.

**a. WO99/13989 Is Not An Effective Reference.**

The international publication date of WO99/13989 is April 22, 1999. The present Application has a U.S. filing date of January 15, 1999, and claims priority to Japanese Application 10-022752 filed January 19, 1998. WO99/13989 thus was not "described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent," or "described in a printed publication in this or a foreign country . . . more than one year prior to the date of the application for patent in the United States." WO99/13989 therefore may not be cited as a § 103(a) reference against the present invention, and the pending § 103(a) rejection should be withdrawn accordingly.

**b. JP 59042781 Does Not Cure the Deficiencies of Shigeta.**

As the Office Action acknowledges, Shigeta does not teach the present invention's "process for mixing both types [of] resins" to form a separator." July 19, 2000 Office Action at 4. JP 59042781 does not cure this deficiency.

The abstract of JP 59042781 is cited as teaching a method in which carbon powder, an epoxy resin and a phenolic resin are mixed and then heat pressed. *Id.* Review of the cited portion of this reference, however, reveals that JP 59042781 in fact teaches only the mixture of carbon, a vinyl phenol polymer and a "*phenol* resin initial condensation product which has an *epoxy group*." Clearly, such a phenol resin is not an *epoxy resin*. JP 59042781 therefore does not teach or suggest the element missing in Shigeta, let alone the combination of phenolic resin and epoxy resin taught by the present application. Because Shigeta and JP 59042781, either alone or in combination, fail to teach or suggest the present invention, claims 1-3, 5-8 and 11-12 are patentable over these references.

In view of the foregoing, the Applicant respectfully requests reconsideration and withdrawal of the pending § 103(a) rejections of claims 1-3, 5-8 and 11-12.

**2. The § 112 Rejection Should Be Withdrawn.**

Claims 1-12 stand rejected under § 112, second paragraph as being indefinite for failing to clearly define the identities of the components in the mixtures of phenolic resins and epoxy resins in the present invention. The Applicant respectfully traverses these rejections on the grounds that the specification adequately discloses the identities of the mixture components, and that the identities of suitable phenolic resins and epoxy resins are well-known and understood by those of ordinary skill in the fuel cell separator art, and thus the specification "clearly allow[s] persons of ordinary skill in the art to recognize that [the Applicants] invented what is claimed." MPEP § 2163.02 (quoting *In re Gosteli*, 872 F.2d 1008, 1012 10 USPQ2d 1614,1618 (Fed. Cir. 1989)).

Consistent with the well-known nature of such resins, the specification at pages 15 and 26 generally identify suitable resin materials, for example, a "cresol novolac type epoxy resin" and a "novolac type phenolic resin," and later, for the epoxy resin a "glycidylamine type epoxy resin or bisphenol A type epoxy resin" and for the phenolic resin "resol type phenolic resin." Application at 15, 26. Moreover, the specification identifies the nature of the mixture compositions and the chemical reactions therebetween to achieve the desired minimal gas formation, water generation and swelling, and provides guidance as to the quantities of the components required. Application at 24-26 (*e.g.*, after describing the chemical reactions and undesired properties of some mixtures, the specification identifies that "[i]n order to effectively suppress generation of vapor during heat-press forming by using the binder containing the phenolic resin and the epoxy resin, the epoxy resin has to contain sufficient amount of epoxy group to be reacted with the hydroxyl group such that the hydroxyl group of the phenolic resin generates no undesirable vapor. For example, when using equal amounts of the epoxy resin having an epoxy equivalent ranging from 100 to 250 g is mixed with the phenolic resin having OH equivalent ranging from 100 to 120 g.").

The Applicants respectfully submit that this disclosure is more than sufficient in view of the well-known nature of these resins, particularly where the identification of the types and amounts of resin materials for the mixtures provide those of ordinary skill in the art with

adequate information and a more detailed description is not required. Indeed, MPEP § 2163.02 specifically instructs that "[t]he subject matter of the claim need not be described literally . . . in order for the disclosure to satisfy the description requirement" as long as the invention is clearly conveyed to those skilled in the art. Under this criteria, the Applicants respectfully submit that they have met their obligations under § 112, second paragraph, and request withdrawal of the pending § 112, second paragraph rejections of claims 1-12.

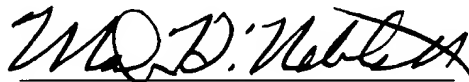
**Conclusion**

In view of the foregoing remarks, the Applicant earnestly solicits an early and favorable action on the merits and issuance of a Notice of Allowance for claims 1-12.

The Examiner is invited to contact the undersigned to discuss any matter concerning this application.

The Office is authorized to charge any underpayment or credit any overpayment to Kenyon & Kenyon Deposit Account No. 11-0600.

Respectfully submitted,



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